

EGR/AIR MIXING INTAKE MANIFOLD WITH DUAL ORIENTATIONS

Abstract of the Disclosure

An intake manifold mixes and supplies air and exhaust recirculation gas (EGR) to an internal combustion engine. The manifold is a casting and includes an air intake port formed on one side thereof, an intake chamber receiving intake air from the intake port, an outlet plenum communicated with the engine, an EGR inlet port, and first and second EGR valve chambers. A first EGR passage communicates the EGR inlet port with the first EGR valve chamber. A second EGR passage communicates the EGR inlet port with the second EGR valve chamber. A central EGR outlet passage communicates an end of each EGR valve chamber with a central portion of the plenum. First and second EGR outlet chambers receive EGR from the first and second valve chambers, and have outlet ports which communicate with first and second ends of the plenum. An EGR supply conduit and EGR valves can be installed on either side of the manifold so that the manifold can be oriented the air intake projecting upwardly or downwardly.